

ITERATIVE UPDATE
to
Species Considered *
and
IDENTIFICATION
of
“Forest Planning Species”
and their EXISTING CONDITION

FOREST PLAN REVISION
Apache-Sitgreaves National Forests (ASNFs)

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* This is a Forest Plan Revision document that, in part, updates species lists in the
2008 ESR Fisheries Specialist Report & 2009 ESR Wildlife Specialist Report

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UPDATE OF SPECIES CONSIDERED FOR FOREST PLAN REVISION

The 1976 National Forest Management Act (NFMA) requires that the forest plan shall provide for diversity of plant and animal communities and that planning consider how diversity will be affected by various plan alternatives (section 219.27(g)). The process to assess diversity of ecosystems and wildlife on the Apache-Sitgreaves National Forests (ASNFs) began in 2006 with the initiation of forest plan revision. Various local and national sources were reviewed such as the ecological and biological analyses completed by The Nature Conservancy for the ASNFs (Vander Lee, 2008). A local collaborative wildlife discussion group, consisting of forest and other agency biologists, public individuals, and interest groups participated in the process along with input from species specialists.

Comprehensive lists of species that may be present or may have suitable habitat on the ASNFs were compiled. Approximately 500 animals (including fish) and 2,500 plants (including some lichens and mosses¹) were considered for the ASNFs. Of this magnitude of species, most of the common or less common (but secure) species, including those unaffected by management (Forest Service, 2010), were not given further consideration for plan revision. Combined, about 358 species were brought forward for evaluation in the 2009 Wildlife Specialist Report and 2008 Fisheries Specialist Report.² These two reports supported the 2009 Ecosystem Sustainability Report that summarized diversity of ecosystems, including diversity of animals and plants, on the ASNFs.

With the screening for viability concerns detailed in the 2008 and 2009 specialist reports, 126 species were initially identified as having risk to viability. Their identification helped with the development of plan direction or components to reduce risk to viability. The number of species considered for planning changes over time as new information about known species, new species, or change in species status becomes available. Periodic updates are necessary as new information becomes available; therefore the number of species listed in various documents can be different. This iterative process resulted in a March 2011 update to the species listed in the earlier wildlife and fisheries reports resulting in a refined list of 339 species evaluated for which risk to viability was evaluated. Note that species' status can change over time; hence, species status was again reviewed during 2012 and 2013.

This report includes the 339 species and finalizes a list of 109 species that are considered "forest planning species" or FPS, i.e., species with potential for risks to viability. Of the 109, several species (including fish) are listed as threatened or endangered under the Endangered Species Act (ESA); more than 50 species³ (including six fishes) are listed by the Regional Forester as sensitive species (some of these are candidates for listing under ESA). The remaining species are mostly uncommon or rare or identified for other reasons: three are management indicator species (MIS), i.e., common species useful for development and comparison of alternatives per the 1976 National Forest Management Act (NFMA), and five are included because of important ecosystem function and because of strong public or other scoping interest.⁴ Note that some species will be in more than one category of species and there is insufficient information for some species to know whether they merit designation as a FPS.

Tables 1 through 6 show the 339 species, indicating changes and which individual species is selected as a forest planning species or FPS. These are shown in six species groups as follows: 36 mammals, 78 birds, 8 reptiles and amphibians, 57 invertebrates, 121 plants, and 39 fish. How each forest plan alternative will affect risk to viability for these 109 species will be analyzed in the wildlife and fish specialist viability reports in support of the DEIS. Table 9 contains just the FPS and indicates existing condition based on an estimate of current abundance and distribution on the ASNFs (called a forest or F ranking). In addition, those habitat elements (potential natural vegetation types⁵ or other factors) most likely to influence species' abundance and distribution are identified.

Footnotes for tables 1-6 are included at the bottom of each table page for ease of reference.

¹ Future efforts to further assess additional lichens, mosses, and fungi on the ASNFs are planned.

² Because of lack of occurrence information for some species, this number includes a few species not known on the ASNFs but possibly present due to potential habitat.

³ Five sensitive plant species were not brought forward; rationale included in the following tables.

⁴ These include species with a landscape level need for habitat connectivity and/or species that influence other species in terms of their impact on habitat or through predator-prey relationships; they are referred to as keystone or herein as *highly interactive* species.

⁵ Species' habitat types are characterized as potential natural vegetation types or PNVTs for plan revision analysis.

Table 1. Mammals considered and identification of forest planning species (FPS)

Mammals total 36	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment -OR- explain if change from prior lists
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Antilocapra americana</i>	pronghorn antelope					MIS			y	F4	current MIS
<i>Canus lupus baileyi</i>	Mexican wolf	ENE			HI				y	F1	
<i>Castor canadensis</i>	beaver				HI				y	F4	
<i>Clethrionomys (Myodes) gapperi</i>	southern red-backed vole		x [§]						y	F?	
<i>Corynorhinus townsendii pallenscens</i>	pale Townsend's big-eared bat		x						y	F?	
<i>Cynomys gunnisoni</i>	Gunnison's prairie dog		x		HI				y	F1	
<i>Euderma maculatum</i>	spotted bat		x						y	F?	
<i>Eumops perotis californicus</i>	greater western mastiff bat		x [§]						y	F?	
<i>Idionycteris phyllotis</i>	Allen's lappet-browed bat		x						y	F?	
<i>Lasiurus blossevillii</i>	western red bat		x						y	F?	
<i>Leopardus pardalis</i>	ocelot	E							y	F?	added-habitat on Clifton RD
<i>Leptonycteris curasoae yerbabuenae</i>	lesser long-nosed bat	E							y	F?	agave nectar source & mine adits on forest
<i>Lontra canadensis sonora</i>	southwestern river otter							x	n		
<i>Microtus montanus arizonensis</i>	Arizona montane vole		x						y	F3	
<i>Microtus longicaudus</i>	long-tailed vole		x [§]						y	F4	
<i>Microtus mogollonensis mogollonensis</i> *	Mogollon vole		x						y	F3	
* sub species <i>navaho</i> is RF sensitive, but not on ASNFs; however, sub											

TABLES 1-6 FOOTNOTES:

^{a/} **Status:** T=ESA threatened; pT=proposed threatened; E=ESA endangered; pE=proposed endangered; ENE=ESA experimental, non-essential; CH=ESA critical habitat; p=ESA proposed; C=ESA candidate for listing under ESA; S=Southwestern Region F5 sensitive species; MIS=management indicator species; HI=highly interactive species

^{b/} **F ranking** (existing condition relative to reference or desired conditions): F?=unknown abundance/distribution; F1=extremely rare; F2=rare; F3=uncommon (including locally common but in rare locations); F4=widespread; F5=secure

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		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			-OR- explain if change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
species <i>mogolloensis</i> is it's equivalent on the forests (Frey, 2011)											
<i>Myotis auriculus</i>	southwestern myotis							x	n		
<i>Myotis occultus</i>	Arizona myotis			x					y	F?	
<i>Myotis thysanodes</i>	fringed myotis							x	n		remove, highly migratory
<i>Nasua narica</i>	white-nosed coati							x	n		
<i>Neotamias cinereicollis</i>	gray-collared chipmunk							x	n		
<i>Odocoileus hemionus</i>	mule deer			x					y	F4	current MIS
<i>Panther onca</i>	jaguar	E							y	F1	riparian travel corridors on forest
<i>Perognathus flavus goodpasteri</i>	Springerville silky pocket mouse		x						y	F3	
<i>Puma concolor</i>	mountain lion				HI				y	F5	added-of public interest
<i>Sciurus aberti</i>	Abert's squirrel			x					y	F4	current MIS
<i>Sciurus arizonensis arizonensis</i>	Arizona gray squirrel		x [§]						y	F?	
<i>Sorex merriami leucogenys</i>	Merriam's shrew		x [§]						y	F3	included as <i>S. merriami</i> , no subspecies
<i>Sorex nana</i>	dwarf shrew		x [§]						y	F3	
<i>Sorex palustris navigator</i>	American water shrew		x						y	F?	
<i>Spermophilus tridecemlineatus monticola</i>	White Mountains ground squirrel		x						y	F3	
<i>(Neo)Tamias minimus arizonensis</i>	White Mountain chipmunk		x						y	F?	
<i>Tamiasciurus hudsonicus</i>	red squirrel			x					y	F4	current MIS
<i>Taxidea taxus</i>	badger							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Ursus americanus</i>	black bear				HI				y	F4	added per AZGFD study
<i>Zapus hudsonius luteus</i>	New Mexican jumping mouse	pE							y	F1	

Note: Four mammals are MIS under the current 1987 Forest Plan; one of these, pronghorn, is proposed as MIS for forest plan revision

Table 2. Birds considered and identification of forest planning species (FPS)

Birds total 78	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Accipiter gentilis</i>	northern goshawk		x			MIS			y	F4	prior left off so added & current MIS
<i>Aeronautes saxatilis</i>	white-throated swift							x	n		
<i>Amphispiza belli</i>	sage sparrow							x	n		
<i>Anas acuta</i>	northern pintail							x	n		
<i>Anas americana</i>	American wigeon							x	n		
<i>Anas clyptea</i>	northern shoveler							x	n		
<i>Anas crecca</i>	green-winged teal							x	n		
<i>Anas cyanoptera</i>	cinnamon teal							x	n		
<i>Anthus rubescens</i>	American pipit							x	n		
<i>Aquila chrysaetos</i>	golden eagle							x	n		
<i>Archilochus alexandri</i>	black-chinned hummingbird							x	n		
<i>Asio otus</i>	long-eared owl							x	n		
<i>Athene cunicularia hypugaea</i>	western burrowing owl		x						y	F?	
<i>Athya americana</i>	redhead							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Athya collaris</i>	ring-necked duck							x	n		
<i>Baeolophus ridgwayi</i>	juniper titmouse			x					y	F4	current MIS
<i>Buteo albonotatus</i>	zone-tailed hawk		x [§]						y	F3	
<i>Buteo regalis</i>	ferruginous hawk							x	n		
<i>Buteo swainsoni</i>	Swainson's hawk							x	n		
<i>Buteogallus anthracinus</i>	common black-hawk		x [§]						y	F4	
<i>Cardellina rubrifrons</i>	red-faced warbler			x					y	F4	
<i>Cartharus fascescens</i>	veery							x	n		
<i>Catharus ustulatus</i>	Swainson's thrush			x					y	F2	
<i>Charadrius montanus</i>	mountain plover							x	n		
<i>Cinclus mexicanus</i>	American dipper							x	n		
<i>Coccothraustes vespertinus</i>	evening grosbeak			x					y	F3	
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	pT							y	F1	
<i>Columba fasciata</i>	band-tailed pigeon							x	n		
<i>Contopus borealis</i>	olive-sided flycatcher							x	n		
<i>Contopus pertinax</i>	greater pewee							x	n		
<i>Cyrtonyx montezumae mearnsi</i>	Montezuma quail			x					y	F2	
<i>Dendragapus obscurus</i>	dusky (blue) grouse			x					y	F2	
<i>Dendroica coronate</i>	yellow-rumped warbler							x	n		
<i>Dendroica graciae</i>	Grace's warbler			x					y	F5	
<i>Dendroica nigrescens</i>	black-throated gray warbler							x	n		
<i>Dumetella carolinensi</i>	gray catbird		x						y	F3	
<i>Empidonax hammondi</i>	Hammond's flycatcher					--		x	n		
<i>Empidonax occidentalis</i>	cordilleran flycatcher							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	T CH							y	F1	
<i>Empidonax wrightii</i>	gray flycatcher							x	n		
<i>Eugenes fulgens</i>	magnificent hummingbird							x	n		present so considered
<i>Euptilotis neoxenus</i>	eared Quetzal							x	n		
<i>Falco mexicanus</i>	prairie falcon							x	n		
<i>Falco peregrinus anatum</i>	American peregrine falcon		x						y	F2	
<i>Gallinago delicata</i>	Wilson's snipe							x	n		
<i>Gymnorhinus cyanocephalus</i>	pinyon jay							x	n		
<i>Haliaeetus leucocephalus</i>	bald eagle		x						y	F1	
<i>Icterus virens</i>	yellow-breasted chat							x	n		current MIS
<i>Lanius ludovicianus</i>	loggerhead shrike							x	n		
<i>Melanerpes lewis</i>	Lewis's woodpecker							x	n		
<i>Meleagris gallopavo merriami</i>	Merriam's wild turkey							x	n		current MIS
<i>Melospiza lincolnii</i>	Lincoln's sparrow			x					y	F1	current MIS
<i>Molothrus ater</i>	brown-headed cowbird							x	n		
<i>Myadestes townsendi</i>	Townsend's solitaire							x	n		
<i>Myiarchus cinerascens</i>	ash-throated flycatcher							x	n		
<i>Oporornis tolmiei</i>	MacGillivray's warbler			x					y	F?	
<i>Otus flammeolus</i>	flamulated owl			x					y	F?	
<i>Aegolius acadicus</i>	northern saw-whet							x	n		
<i>Glaucidium gnoma</i>	northern pygmy owl							x	n		
<i>Passerculus sandwichensis</i>	savannah sparrow			x					y	F3	

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Perisoreus canadensis</i>	gray jay							x	n		
<i>Peucedramus taeniatus</i>	olive warbler							x	n		
<i>Picoides tridactylus</i>	three-toed woodpecker							x	n		
<i>Pinicola enucleator</i>	pine grosbeak							x	n		
<i>Pipilo chlorurus</i>	green-tailed towhee							x	n		
<i>Progne subis</i>	purple martin							x	n		
<i>Regulus satrapa</i>	golden-crowned kinglet							x	n		
<i>Sphyrapicus nuchalis</i>	red-naped sapsucker							x	n		current MIS
<i>Sphyrapicus thyroideus</i>	Williamson's sapsucker							x	n		
<i>Strix occidentalis lucida</i>	Mexican spotted owl	T CH				MIS			y	F3	current MIS
<i>Tachycineta thalassina</i>	violet-green swallow							x	n		
<i>Toxostoma crissale</i>	Crissal thrasher							x	n		
<i>Vermivora celata</i>	orange-crowned warbler							x	n		
<i>Vermivora luciae</i>	Lucy's warbler							x	n		
<i>Vermivora virginiae</i>	Virginia's warbler							x	n		
<i>Vireo bellii arizonae</i>	Arizona bell's vireo						x		n		Lower Sonoran species- removed from 2013 RF list
<i>Vireo plumbeus</i>	plumbeous vireo							x	n		
<i>Vireo vicinior</i>	gray vireo		x [§]						y	F?	

Note: Six birds are MIS under the current 1987 Forest Plan; two of these, northern goshawk and Mexican spotted owl, are proposed as MIS for forest plan revision; MSO previously considered F4 but changed to F3 due to uncertainty of abundance after the 2011 Wallow Fire until subsequent years' surveys are completed.

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Table 3. Reptiles & Amphibians considered and identification of forest planning species (FPS)

Reptiles & Amphibians total 8	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment -OR- explain change from prior lists
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Bufo microscaphus</i>	Arizona toad		x [§]						y	F4	
<i>Crotalus cerberus</i>	Arizona black rattlesnake							x	n		
<i>Hyla wrightorum</i>	Arizona (mountain) treefrog							x	n		
<i>Lithobates chiricahuensis</i>	Chiricahua leopard frog	T CH							y	F1	
<i>Lithobates pipiens</i>	northern leopard frog		x						y	F2	
<i>Lithobates yavapaiensis</i>	lowland leopard frog		x						y	F3	
<i>Thamnophis eques megalops</i>	northern Mexican gartersnake	pT							y	F?	
<i>Thamnophis rufipunctatus</i>	narrow-headed garter snake	pT							y	F1	

Table 4. Invertebrates considered and identification of forest planning species (FPS)

Invertebrates total 57	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment -OR- explain change from prior lists
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Aeshna persephone</i>	Persephone's darner							x	n		present so considered
<i>Agathymus aryxna</i>	Arizona giant skipper							x	n		
<i>Alexicles aspersa</i>	A tiger moth							x	n		
<i>Amblycheila</i>	plateau giant tiger beetle			x					y	F?	

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Invertebrates total 57	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>picolomini</i>											
<i>Ambrysus arizonus</i>	a waterbug							x	n		
<i>Ambrysus thermarum</i>	a waterbug							x	n		
<i>Ameletus falsus</i>	false ameletus mayfly			x					y	F?	
<i>Amphinemura mogollonica</i>	a stonefly							x	n		
<i>Anodonta californiensis</i>	California floater		x						y	F1	
<i>Apatania arizona</i>	a caddisfly							x	n		
<i>Ashmunella mogollonensis</i>	Mogollon woodlandsnail							x	n		
<i>Ashmunella pilsbryana</i>	Blue Mountain woodlandsnail							x	n		
<i>Atopsyche sperryi</i>	a caddisfly							x	n		
<i>Baetdes arizonensis</i>	a mayfly										remove, not known on ASNFs
<i>Callophrys fotis desert rocky cyns</i>	early elfin							x	n		
<i>Callophrys sheridanii comstock</i>	desert green hairstreak							x	n		
<i>Callophrys xami</i>	a mayfly							x	n		
<i>Cicindela hirticollis coloraula</i>	hairy necked tiger beetle							x			remove, not known on ASNFs
<i>Cicindela nevadica</i>	Nevada tiger beetle							x			remove, no habitat on ASNFs
<i>Cloeodes excogitatus</i>	a mayfly							x	n		
<i>Coenonympha tullia subfusca</i>	White Mountains ringlet							x	n		
<i>Cordulegaster diadema</i>	Apache spiketail							x	n		
<i>Culoptila kimminsi</i>	a caddisfly							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Culoptila moselyi</i>	(Mosely) cadisfly			x					y	F?	
<i>Danaus plexippus</i>	a monarch							x	n		
<i>Emesis zeal</i>	zeal metalmark							x	n		
<i>Eocyclus concavus</i>	swaybacked clam shrimp							x	n		
<i>Gastrocopta quadridens</i>	cross snaggletooth							x	n		
<i>Glaucopsyche lygdamus</i>	silvery blue							x	n		
<i>Hebrus longivillus</i>	a waterbug							x	n		
<i>Hemileuca hera magnifica</i>	magnificent sheepmoth							x	n		
<i>Inopsis funerea</i>	a tiger moth							x	n		
<i>Ithytrichia mexicana</i>	a caddisfly							x	n		
<i>Lepidostoma knulli</i>	a caddisfly							x	n		
<i>Lilellula nodisticta</i>	hoary skimmer							x	n		
<i>Limnephilus sperryi</i>	a caddisfly							x	n		removed from 2013 RF list
<i>Lycaena ferrisi</i>	Ferris' copper butterfly		x						y	F3	
<i>Melanoplus magdalenae</i>	aspur-throated grasshopper										remove, lack of info
<i>Mesocapnia wernerii</i>	a stonefly							x	n		
<i>Mestra amymone</i>	common mestra butterfly							x	n		
<i>Neominois ridingsii</i>	Ridings' satyr							x	n		
<i>Ochrotrichia ildria</i>	a caddisfly							x	n		
<i>Oecetis metlacensis</i>	a caddis fly							x	n		
<i>Oeneis alberta daura</i>	Alberta arctic			x					y	F?	
<i>Oligocentria delicata</i>	a notodontid moth							x	n		
<i>Ophiogomphus arizonicus</i>	Arizona snaketail		x [§]						y	F?	
<i>Oreohelix subrudis</i>	Reeve's land snail							x	n		present so considered

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Piruna polingii</i>	four-spotted skipperling butterfly		x [§]						y	F3	
<i>Polycentropus arizonensis</i>	a caddisfly							x	n		
<i>Polycentropus gertschi</i>	a caddisfly							x	n		
<i>Psephenus montanus</i>	White Mountains water penny beetle			x					y	F1	
<i>Pyrgulopsis trivialis</i>	Three Forks (Black River) springsnail	E CH							y	F1	
<i>Radiodiscus millecostatus</i>	ribbed rinwheel							x	n		
<i>Smicridea dispar</i>	a caddisfly							x	n		
<i>Sonorella ambigua verdensis</i>	Papago Verde talussnail							x	n		
<i>Sonorella ashmui</i>	Richinbar talussnail										remove, lack of info
<i>Sonorella caerulifluminis</i>	blue talussnail							x	n		
<i>Sonorella franciscana</i>	San Francisco River (St. Francis) talussnail							x	n		
<i>Speyeria mormonia luskii</i>	atronis fritillary butterfly							x	n		
<i>Speyeria nokomis nitocris</i>	nitocris fritillary butterfly		x [§]						y	F3	
<i>Speyeria nokomis nokomis</i>	nanomis fritillary butterfly		x [§]						y	F3	
<i>Taenionema jacobii</i>	a stonefly (SW willowfly)							x	n		remove, not on ASNF
<i>Zumatrichia notosa</i>	a caddisfly							x	n		

Note: "Macroinvertebrates" as a class is a MIS under the current 1987 Forest Plan; for forest plan revision, individual species were considered, see above. In addition, three new invertebrates were added to the 2013 Regional Forester Sensitive Species List: two caddis flies (*Lepidostoma apache* and *Limnephilus granti*) and one stonefly (*Capnia caryi*). These are recently described and/or little is known of their habitat need; as such, there is insufficient information to determine whether they merit status as FPS.

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Table 5. Plants considered and identification of forest planning species (FPS)

Plants total 121	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Adenophyllum wrightii</i>	Wright's dogweed							x	n		
<i>Allium bigelovii</i>	Bigelow's onion			x					y	F?	
<i>Allium gooddingii</i>	Goodding's onion		x						y	F3	
<i>Angelica pinnata</i>	small-leaf angelica							x	n		
<i>Arceuthobium microcarpum</i>	western spruce dwarf- mistletoe							x	n		
<i>Asclepias uncialis</i> spp. <i>uncialis</i>	Greene milkweed		x						y	F?	
<i>Astragalus cobrensis</i>	copper mine milkvetch							x	n		
<i>Astragalus humistratus</i> var. <i>crispulus</i>	groundcover milkvetch						x		n		limited but disturbance species
<i>Astragalus nutriosensis</i>	Nutrios milkvetch							x	n		
<i>Astragalus tephrodes</i> var. <i>brachylobus</i>	ashen milkvetch							x	n		
<i>Beckmannia syzigachne</i>	American sloughgrass							x	n		
<i>Botrychium crenulatum</i> wet mead	crenulate moonwort			x					y	F1	
<i>Botrychium lanceolatum</i>	lanceleaf grapefern							x	n		
<i>Botrychium lunaria</i>	common moonwort							x	n		
<i>Botrychium minganense</i>	Mingan's moonwort							x	n		
<i>Botrychium multifidum</i>	leathery grape-fern							x	n		
<i>Botrychium virginianum</i>	Rattlesnake fern							x	n		
<i>Brickellia amplexicaulis</i> var.	earleaf brickelbush							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>lanceolata</i>											
<i>Carex oreocharis</i>	grassy slope sedge							x	n		
<i>Castilleja mogollonica</i>	White Mountains paintbrush		x						y	F1	
<i>Centaurea americana</i>	American start-thistle							x	n		
<i>Chloris virgata</i>	feather fingergrass										remove, not on ASNFs
<i>Cirsium gilense</i>	Gila thistle						x		n		no collections, confusion with other thistles
<i>Cirsium parryi</i>	Parry's thistle							x	n		
<i>Cirsium rothrockii</i>	rose colored thistle							x	n		
<i>Clematis hirsutissima</i>	hairy clematis							x	n		
<i>Clematis palmeri</i>	Palmer's virgin bower							x	n		
<i>Conioselinum mexicanum</i>	Mexican hemlock parsley			x					y	F?	
<i>Cordylanthus laxiflorus</i>	nodding bird's-beak							x	n		
<i>Crassula viridis</i>	prickly-seed pygmyweed							x	n		
<i>Crataegus erythropoda</i>	Cerro hawthorn							x	n		
<i>Crataegus rivularis</i>	river hawthorne							x	n		
<i>Cryptantha cinerea</i>	James' cryptantha							x	n		
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	greater yellow lady's slipper		x [§]						y	F1	
<i>Dactylorhiza viridis</i>	longbract frog orchid							x	n		
<i>Delphinium andesicola</i>	Chiricahua Mountain larkspur							x	n		
<i>Delphinium scopulorum</i>	Rocky Mountain larkspur							x	n		
<i>Draba rectifruta</i>	mountain whitlow-grass							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Draba standleyi</i>	Standley's whitlow-grass							x	n		
<i>Epilobium lactiflorum</i>	milkflower willowherb							x	n		
<i>Epilobium oregonense</i>	Oregon wilowherb							x	n		
<i>Epixiphium wislizenii</i>	ballonbush							x	n		
<i>Ericameria nauseosa</i> var. <i>nitida</i>	rubber rabbitbrush							x	n		
<i>Eriogonum ericifolium</i> var. <i>ericifolium</i>	heathleaf wild buckwheat						x		n		nomenclature unclear
<i>Epixiphium wislizeni</i>	balloonbush							x	n		
<i>Festuca thurberi</i>	Thurber fescue							x	n		
<i>Gentiana fremontii</i>	moss gentian							x	n		
<i>Gentianella wislizeni</i>	Chiricahua gentian						x		n		annual so variable presence
<i>Goodyera repens</i>	lesser rattlesnake plantain							x	n		
<i>Grindelia laciniata</i>	cut-leaf gumweed							x	n		
<i>Gutierrezia wrightii</i>	Wright's snakeweed							x	n		
<i>Gymnocarpium dryopteris</i>	northern oak fern							x	n		
<i>Hackelia ursina</i>	Chihuahuan stickseed bienn							x	n		
<i>Helianthella parryi</i>	Parry's dwarf-sunflower							x	n		
<i>Helenium arizonicum</i>	Arizona sneezeweed		x						y	F2	
<i>Helianthus arizonensis</i>	Arizona sunflower		x						y	F?	
<i>Heteranthera peduncularis</i>	egret mudplantain							x	n		
<i>Heuchera eastwoodiae</i>	Eastwood (Senator Mine) alumroot		x						y	F?	
<i>Heuchera glomerulata</i>	Arizona (Chiricahua Mtn.) alumroot		x						y	F3	
<i>Heuchera</i>	New Mexico alumroot							x	n		

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<i>novomexicana</i>											
<i>Hieracium fendleri</i> var. <i>mogollense</i>	Mogollon hawkweed						x		n		uncertainty re: habitat requirements
<i>Hymenoxys jamesii</i>	James' rubberweed							x	n		
<i>Hypericum anagalloides</i>	Tinker's penny							x	n		
<i>Isoetes bolanderi</i>	Bollander's quillwort							x	n		
<i>Lesquerella gooddingii</i>	Goodding's bladderpod							x	n		
<i>Lesquerella pinetorum</i>	White Mountain bladderpod							x	n		
<i>Linnaea borealis</i>	twinflor							x	n		
<i>Listera convallarioides</i>	broadlipped twayblade							x	n		
<i>Lobelia fenestralis</i>	fringeleaf lobelia							x	n		
<i>Lotus mearnsii</i>	Mearn's bird's-foot trefoil							x	n		
<i>Lupinus hillii</i>	Hill's Lupine							x	n		
<i>Lupinus neomexicanus</i>	New Mexican lupine							x	n		
<i>Lysimachia hybrid</i>	lowland yellow loosestrife							x	n		
<i>Machaeranthera grindelioides</i>	rayless tansyaster							x	n		
<i>Macromeria viridiflora</i> var. <i>thurberi</i>	Thurger's giant trumpets							x	n		
<i>M. viridiflora</i> var. <i>viridiflora</i>	giant trumpets							x	n		
<i>Malaxis porphyrea</i>	Cochise adder's-mouth orchid							x	n		
<i>Margaranthus solanaceus</i>	netted globbecherry							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Menyanthes trifoliata</i>	buckbean							x	n		
<i>Moneses uniflora</i>	wood nymph			x					y	F?	
<i>Nuphar lutea</i>	pond lily							x	n		
<i>Oreoxis alpine</i>	alpine oreoxis							x	n		
<i>Packera cardamine</i>	heartleaf (bittercress) ragwort		x						y	F?	
<i>Packera cynthioides</i>	White Mountain groundsel							x	n		
<i>Packera quaerens</i>	New Mexican groundsel							x	n		
<i>Penstemon deaveri</i>	Mt. Graham beardtongue							x	n		
<i>Penstemon linarioides</i> ssp. <i>maguirei</i>	Maguire's penstemon						x		n		known only active mining areas
<i>Penstemon oliganthus</i>	Apache beardtongue							x	n		
<i>Penstemon putus</i>	Black River beardtongue							x	n		
<i>Penstemon rydbergii</i>	Rydber's penstemon							x	n		
<i>Penstemon superbus</i>	superb penstemon			x					y	F?	
<i>Perityle ambrosiifolia</i>	lace-leaved rock daisy							x	n		
<i>Peteria scoparia</i>	rush peteria							x	n		
<i>Phacelia neomexicana</i>	New Mexico phacelia							x	n		
<i>Phlox amabilis</i>	Arizona phlox							x	n		
<i>Polemonium</i> <i>foliosissimum</i> var. <i>flavum</i>	yellow Jacob's-ladder			x					y	F1	
<i>Polemonium</i> <i>pulcherrimum</i> ssp. <i>delicatum</i>	beautiful Jacob's ladder							x	n		
<i>Pteryxia davidsonii</i>	Davidson's cliff carrot		x						y	F?	
<i>Puccinellia parishii</i>	Parish's alkali grass		x						y	F1	
<i>Ranunculus</i> <i>hydrocharoides</i> var.	frog's-bit buttercup							x	n		

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		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>stolonifer</i>											
<i>Ranunculus</i> <i>inamoenus</i>	graceful buttercup										remove, very common
<i>Rhamnus serrata</i>	sawleaf buckthorn							x	n		
<i>Rhinanthus minor</i>	little yellowrattle							x	n		
<i>Rumex orthoneurus</i>	Blumer's dock		x						y	F3	
<i>Salix arizonica</i>	Arizona willow		x						y	F1	
<i>Salix bebbiana</i>	Bebbs willow		x						y	F3	
<i>Salvia davidsonii</i>	Davidson's sage							x	n		
<i>Sclerocactus papyracanthus</i>	paperspine fishhook cactus							x	n		
<i>Selaginella densa</i>	lesser spikemoss							x	n		
<i>Sisyrinchium longipes</i>	timberland blue-eyed grass							x	n		
<i>Spiranthes romanzoffiana</i>	hooded lady's tresses			x					y	F1	
<i>Sporobolus interruptus</i>	black dropseed							x	n		
<i>Stachys rothrockii</i>	Rothrock's hedgenettle							x	n		
<i>Streptopus amplexifolius</i>	claspleaf twisted stalk							x	n		
<i>Talinum gooddingii</i>	Goodding's fameflower										
<i>Tayloria splachnoides</i>	splachnoid dung moss			x					y	F?	
<i>Tetranneuris argentea</i>	perkysue							x	n		
<i>Thalictrum dasycarpum</i>	purple meadow-rue							x	n		
<i>Trautvetteria caroliniensis</i>	Carolina bugbane							x	n		
<i>Trifolium neurophyllum</i>	Mogollon clover		x						y	F3	

TABLES 1-6 FOOTNOTES:

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^{b/} **F ranking** (existing condition relative to reference or desired conditions): F?=unknown abundance/distribution; F1=extremely rare; F2=rare; F3=uncommon (including locally common but in rare locations); F4=widespread; F5=secure

x [§] Indicates a previously sensitive species that is not now included on the 2013 Regional Forester Sensitive Species List; however, the species remains a forest planning species (FPS).

Plants total 121	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	Mgt. Indi- cator Spec. MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Triteleia lemmoniae</i>	Oak Creek triteleia			x					y	F?	
<i>Utricularia macrorhiza</i>	common bladderwort			x					y	F1	
<i>Xanthoparmelia nigropsomifera</i>	Xanthoparmelia lichen							x	n		

Note: Two sensitive plants are not FPS (no expected viability concern) because one, Chiricahuan gentian, is an annual tied to disturbance and weather variations, and the nomenclature is unclear for the other: heathleaf wild buckwheat.

Table 6. Fishes considered and identification of forest planning species (FPS)

Fish total 39	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Agosia chrysogaster</i>	longfin dace		x [§]						y	F3	
<i>Ameiurus melas</i>	black bullhead							x	n		
<i>Carassius auratus</i>	goldfish							x	n		
<i>Catostomus clarki</i>	desert sucker		x						y	F3	
<i>Catostomus discobolus discobolus</i>	bluehead sucker		x [§]						y	F3	
<i>Catostomus insignis</i>	Sonora sucker		x						y	F3	
<i>Catostomus plebeius</i>	Rio Grande sucker							x	n		
<i>Catostomus sp.3</i>	Little Colorado sucker		x						y	F3	
<i>Cyprinella lutrensis</i>	red shiner							x	n		
<i>Cyprinus carpio</i>	common carp							x	n		
<i>Esox lucius</i>	northern pike							x	n		
<i>Gambusia affinis</i>	western							x	n		

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^{b/} **F ranking** (existing condition relative to reference or desired conditions): F?=unknown abundance/distribution; F1=extremely rare; F2=rare; F3=uncommon (including locally common but in rare locations); F4=widespread; F5=secure

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Fish total 39	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
	mosquitofish										
<i>Gila intermedia</i>	Gila chub	E CH							y	F1	
<i>Gila robusta</i>	roundtail chub		x (C)						y	F1	to be proposed for ESA listing
<i>Ictalurus punctatus</i>	channel catfish							x	n		
<i>Lepidomeda vittata</i>	Little Colorado spinedace	T CH							y	F1	
<i>Lepomis cyanellus</i>	green sunfish							x	n		
<i>Lepomis macrochirus</i>	bluegill							x	n		
<i>Lepomis microlophus</i>	redeer sunfish							x	n		
<i>Meda fulgida</i>	spikedace	E CH							y	F1	
<i>Micropterus dolomieu</i>	smallmouth bass							x	n		
<i>Micropterus salmoides</i>	largemouth bass							x	n		
<i>Notemigonus crysoleucas</i>	golden shiner							x	n		
<i>Oncorhynchus apache</i>	Apache trout	T							y	F2	
<i>Oncorhynchus clarki</i>	cutthroat trout							x	n		
<i>Oncorhynchus gilae</i>	Gila trout	T							y	F1	
<i>Oncorhynchus mykiss</i>	rainbow trout							x	n		
<i>Perca flavescens</i>	yellow perch							x	n		
<i>Pimephales promelas</i>	fathead minnow							x	n		
<i>Pomoxis annularis</i>	white crappie							x	n		

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Fish total 39	March 2011 Update and 2012/2013 Reviews	Viability considerations ^{a/}			Additional considerations ^{a/}		No expected viability concern = not FPS		FPS? y -or- n	if FPS, current condition or F ranking ^{b/}	Comment
		ESA	Sensitive	No Status	Hi interest or highly interactive	MIS	Sensitive	No Status			-OR- explain change from prior lists
		viability concern	potential viability concern	potential viability concern	HI	compare alts & mgt	(see last column why not FPS)				
<i>Pomoxis nigromaculatus</i>	black crappie							x	n		
<i>Pylodictis olivaris</i>	flathead catfish							x	n		
<i>Rhinichthys osculus</i>	speckled dace			x					y	F4	
<i>Salmo trutta</i>	brown trout							x	n		
<i>Salvelinus fontinalis</i>	brook trout							x	n		
<i>Sander vitreus</i>	walleye							x	n		
<i>Thymallus arcticus</i>	Arctic grayling							x	n		
<i>Tiaroga cobitis</i>	loach minnow	E CH							y	F2	
<i>Xyrauchen texanus</i>	razorback sucker	E (CH off ASNFs)							y	F?	

continued

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^{a/} **Status:** T=ESA threatened; pT=proposed threatened; E=ESA endangered; pE=proposed endangered; ENE=ESA experimental, non-essential; CH=ESA critical habitat; p=ESA proposed; C=ESA candidate for listing under ESA; S=Southwestern Region FS sensitive species; MIS=management indicator species; HI=highly interactive species

^{b/} **F ranking** (existing condition relative to reference or desired conditions): F?=unknown abundance/distribution; F1=extremely rare; F2=rare; F3=uncommon (including locally common but in rare locations); F4=widespread; F5=secure

x [§] Indicates a previously sensitive species that is not now included on the 2013 Regional Forester Sensitive Species List; however, the species remains a forest planning species (FPS).

FOREST PLANNING SPECIES' EXISTING CONDITION

For forest plan revision, the existing condition of forest planning species is expressed as an estimate of their current abundance and distribution relative to available habitat.⁶ In this section, those factor(s) more likely to influence abundance and distribution are identified. Typically this is habitat or vegetation type as well as other important habitat components. In addition, some species may be more influenced by activities or other impacts.

Habitat or vegetation type is represented as Potential Natural Vegetation Types (PNVTs). There are 14 PNVTs on the ASNFs (Table 7) and it is management within these types that often affects species abundance and distribution. In addition, various important habitat components and other non-habitat factors related to management can also influence species (Table 8). Risks to species viability can come from the existing condition of PNVTs and habitat components (together called *habitat elements*), and from management and other forest activities; these are discussed in the wildlife and fisheries specialist viability reports prepared for the DEIS.

Table 7. Potential natural vegetation types (PNVTs) on the ASNFs

PNVT abbreviation	PNVT name
Forest types	
PP	Ponderosa Pine Forest (about one-third of PP acreage is PPO although it is not a separate PNVT)
DMC	Dry Mixed Conifer Forest (frequent fire mixed conifer)
WMC	Wet Mixed Conifer Forest (infrequent fire mixed conifer) can include an aspen component
SF	Spruce-Fir Forest can include an aspen component
Woodland types	
MPOW	Madrean Pine-oak Woodland
PJW	Piñon-Juniper woodland §
Grassland types	
MSG	Montane/Subalpine Grassland
GBG	Great Basin Grassland
SDG	Semi-Desert Grassland
Riparian types	
WCR	Wetland-Cienega Riparian Area §
MWR	Montane-Willow Riparian Forest §
CWR	Cottonwood-Willow Riparian Forest §
MBDR	Mixed Broadleaf Deciduous Riparian Forest §
Other types	
IC	Interior Chaparral §

§ Species within these six PNVTs are typically shown under another habitat component or other factor because these PNVTs are less departed from desired conditions, i.e., the vegetation type is less of a concern for the species than other influencing factors.

⁶ While every attempt was made to research all readily available sources, information used may not be exhaustive--especially given the multitude of species; in addition, forest specific information about rare or uncommon species is limited. However, as noted, this is an iterative process so new information is considered periodically once it becomes available.

Table 8. Important components and other habitat elements influencing species

Type	Description
Habitat component element ^{a/}	
High quality water and/or healthy riparian conditions	yearlong or nearly yearlong presence of adequate amounts of water and/or saturated soils; dense, tall herbaceous riparian vegetation, with or without riparian trees; no soil compaction
Shaded or wet meadows	shaded (cool and damp) areas in openings among trees or open wet meadows; extensive ground cover present and soils are little to not compacted
Dense low or mid canopy or shrubs	density of vegetation cover at the shrub or low canopy level, often with cool micro-climate
Large trees and/or dense upper canopy	generally, preferably > 16" dbh (diameter at breast height) and often with closed canopies (generally >60% canopy closure)
Snags	large (>12" dbh, preferably >16" dbh), provided by both dying and long dead trees
Down wood or debris	logs (12" plus) or small woody material or leaf/needle litter on the forest floor usually shaded by overstory trees
Canyon slopes, cliffs, talus or rocky slopes	cliffs or cool, shaded canyon slopes usually associated with riparian areas or riparian forests, or areas dominated by rocks often with some slope
Landscape connectivity	broad or landscape scale connectivity of habitat for travel or movement among needed habitat types
Other elements	
Collecting	unauthorized removal of most often plants, but also animals; usually rare or uncommon species
Harassment	resulting in disturbance of consequence to important life function (e.g., feeding young) or in death
Parasitism, disease, or predation	nest parasitism by cowbirds as affected by grazing management; aquatic chytrid fungus, quagga mussels (and potentially others) as spread by recreation or grazing activities; or unsustainable predation by non-native invasive species--can include habitat competition from non-native invasive species introduced by management or authorized activities or other means

^{a/} As the description shows, each type above covers a variety of specific situations; groupings are to facilitate analysis.

The 109 forest planning species identified in Tables 1 through 6 are listed in Table 9. This table also indicates the more important PNVT(s), habitat component(s) or other factor(s) influencing each species now and their viability into the future.

Table 9. Forest planning species and existing condition

FOREST PLANNING SPECIES by species group 109 total		F ranking	Habitat element or other factor(s) influencing species	Additional details
Mammals - 30				
<i>Antilocapra americana</i>	pronghorn antelope	F4	GBG, MSG landscape connectivity	plan revision MIS
<i>Canis lupus baileyi</i>	Mexican wolf	F1	landscape connectivity intentional harassment	
<i>Castor canadensis</i>	beaver	F4	water and riparian forest	highly interactive
<i>Clethrionomys (Myodes) gapperi</i>	southern red-backed vole	F?	down debris	plant & needle litter
<i>Corynorhinus townsendii pallenscens</i>	(pale) Townsend's big- eared bat	F?	PP, MPOW	possible summer roosts
<i>Cynomys gunnisoni</i>	Gunnison's prairie dog	F1	GBG intentional harassment	highly interactive
<i>Euderma maculatum</i>	spotted bat	F?	cliffs, wet meadow	
<i>Eumops perotis californicus</i>	greater western mastiff bat	F?	SDG or MSG	

FOREST PLANNING SPECIES by species group 109 total		F ranking	Habitat element or other factor(s) influencing species	Additional details
<i>Idionycteris phyllotis</i>	Allen's lappet-browed bat	F?	snags	
<i>Lasiurus blossevillii</i>	western red bat	F?	down debris	leaf litter
<i>Leopardus pardalis</i>	ocelot	F?	MPOW, SDG low-mid canopy	Clifton RD only
<i>Leptonycteris curasoae yerbabuenae</i>	lesser long-nosed bat	F?	SDG	agave nectar source
<i>Microtus longicaudus</i>	long-tailed vole	F4	MSG	also meadows
<i>Microtus montanus arizonensis</i>	Arizona montane vole	F3	riparian wet meadow	dense herbaceous vegetation
<i>Microtus mogollonensis mogollonensis</i>	Mogollon vole	F3	MSG, GBG	also meadows
<i>Myotis occultus</i>	Arizona myotis	F?	snags, large trees	
<i>Odocoileus hemionus</i>	mule deer	F4	all PNVTs	with MPOW, PJW for winter habitat
<i>Panther onca</i>	jaguar	F1	connectivity	riverine travel corridors
<i>Perognathus flavus goodpasteri</i>	Springerville pocket mouse	F3	GBG	
<i>Puma concolor</i>	mountain lion	F5	connectivity	travel corridors
<i>Sciurus aberti</i>	Abert's squirrel	F4	PP large trees, dense canopy	
<i>Sciurus arizonensis arizonensis</i>	Arizona gray squirrel	F?	snags, large trees	
<i>Sorex merriami</i>	Merriam's shrew	F3	meadows	within forest openings near water
<i>Sorex nana</i>	dwarf shrew	F3	MSG	talus, rocky areas
<i>Sorex palustris navigator</i>	(American) water shrew	F?	water, riparian	highly aquatic
<i>Spermophilus tridecemlineatus monticola</i>	White Mountains ground squirrel	F3	MSG,GBG	
<i>(Neo)Tamias minimus arizonensis</i>	White Mountain chipmunk	F?	WMC, SF	
<i>Tamiasciurus hudsonicus</i>	red squirrel	F4	WMC, DMC	
<i>Ursus americanus</i>	black bear	F4	dense low-mid canopy connectivity	
<i>Zapus hudsonius luteus</i>	NM meadow jumping mouse	F1	water, riparian	dense herbaceous vegetation, no compaction
Birds - 22				
<i>Accipiter gentilis</i>	northern goshawk	F4	PP, DMC large trees	plan revision MIS
<i>Athene cunicularia hypugaea</i>	western burrowing owl	F?	GBG	
<i>Baeolophus ridgwayi</i>	juniper titmouse	F4	MPOW	secondarily PJW
<i>Buteo albonotatus</i>	zone-tailed hawk	F3	large trees	
<i>Buteogallus anthracinus</i>	common black-hawk	F4	large trees	often closed canopies
<i>Cardellina rubrifrons</i>	red-faced warbler	F4	DMC, WMC, low-mid canopy	also down debris
<i>Catharus ustulatus</i>	Swainson's thrush	F2	WMC, SF, low-mid canopy	associated with high elevation riparian
<i>Coccothraustes vespertinus</i>	evening grosbeak	F3	dense upper canopy	
<i>Coccyzus americanus occidentalis</i>	yellow-billed cuckoo	F1	riparian, mid canopy	
<i>Cyrtonyx montezumae mearnsi</i>	Montezuma quail	F2	GBG, SDG	

FOREST PLANNING SPECIES by species group 109 total		F ranking	Habitat element or other factor(s) influencing species	Additional details
<i>Dendragapus obscurus</i>	dusky blue grouse	F2	WMC, SF, down wood	
<i>Dendroica graciae</i>	Grace's warbler	F5	PP, large trees dense upper canopy	
<i>Dumetella carolinensi</i>	gray catbird	F3	low-mid canopy	associated with riparian
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	F1	mid canopy nest parasitism	within MWRF
<i>Falco peregrinus anatum</i>	American peregrine falcon	F3	healthy riparian conditions, cliffs	riparian associated prey
<i>Haliaeetus leucocephalus</i>	bald eagle	F2	water, large trees	
<i>Melospiza lincolni</i>	Lincoln's sparrow	F1	riparian	dense herbaceous cover
<i>Oporornis tolmiei</i>	MacGillivray's warbler	F?	DMC, WMC dense low-mid canopy	
<i>Otus flammeolus</i>	flamulated owl	F4	PP, DMC	
<i>Passerculus sandwichensis</i>	savannah sparrow	F3	MSG	also meadows
<i>Strix occidentalis lucida</i>	Mexican spotted owl	F3	DMC, WMC, large trees	plan revision MIS
<i>Vireo vicinior</i>	gray vireo	F?	MPOW low-mid canopy nest parasitism	also PJ
Reptiles & Amphibians - 6				
<i>Bufo microscaphus</i>	Arizona toad	F4	water, riparian	low elevations
<i>Lithobates chiricahuensis</i>	Chiricahua leopard frog	F1	water, disease	
<i>Lithobates pipiens</i>	northern leopard frog	F1	water, disease	
<i>Lithobates yavapaiensis</i>	lowland leopard frog	F3	water, disease	low elevations
<i>Thamnophis eques megalops</i>	northern Mexican gartersnake	F?	water, riparian	low elevations
<i>Thamnophis rufipunctatus</i>	narrow-headed gartersnake	F1	water, riparian	
Invertebrates - 12				
<i>Amblycheila picolomini</i>	plateau giant tiger beetle	F?	SDG	
<i>Ameletus falsus</i>	false ameletus mayfly	F?	water	
<i>Anodonta californiensis</i>	California floater	F1	water	sediment free, no trampling
<i>Culoptila moselyi</i>	Mosely caddisfly	F?	water	sediment free
<i>Lycaena ferrisi</i>	Ferris' copper butterfly	F3	meadow	
<i>Oeneis alberta daura</i>	Alberta arctic butterfly	F?	MSG	
<i>Ophiogomphus arizonicus</i>	Arizona snaketail	F?	water	
<i>Piruna polingii</i>	four-spotted skipperling butterfly	F3	meadow	
<i>Psephenus montanus</i>	White Mountains water penny beetle	F1	water	sediment free
<i>Pyrgulopsis trivialis</i>	Three Forks springsnail	F1	water, collection, predation by invasives	
<i>Speyeria nokomis nitocris</i>	nitocris fritillary butterfly	F3	wet meadow, collection	
<i>Speyeria nokomis nokomis</i>	nanomis fritillary butterfly	F3	wet meadow, collection	
Plants - 25				
<i>Allium bigelovii</i>	Bigelow's onion	F?	SDG	
<i>Allium gooddingii</i>	Goodding's onion	F3	DMC, WMC, SF	cool micro-climate
<i>Asclepias uncialis</i> spp. <i>uncialis</i>	Greene milkweed	F?	GBG, SDG	
<i>Botrychium crenulatum</i>	crenulate moonwort	F1	wet meadow	
<i>Castilleja mogollonica</i> (also <i>C. sulphurea</i>)	White Mountains paintbrush	F1	wet meadow	

FOREST PLANNING SPECIES by species group 109 total		F ranking	Habitat element or other factor(s) influencing species	Additional details
<i>Conioselinum mexicanum</i>	Mexican hemlock parsley	F?	MPOW	cool micro-climate
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	(greater) yellow lady's slipper	F1	WMC, SF, collection	
<i>Helenium arizonicum</i>	Arizona sneezeweed	F2	wet meadow	
<i>Helianthus arizonensis</i>	Arizona sunflower	F?	SDG	
<i>Heuchera eastwoodiae</i>	Eastwood alumroot	F?	canyon slopes	within MPOW
<i>Heuchera glomerulata</i>	Chiricahua Mountain alumroot	F3	canyon slopes	within PP, MPOW
<i>Moneses uniflora</i>	wood nymph	F3	WMC, SF shaded meadow	
<i>Packera cardamine</i>	bittercress ragwort	F?	WMC,SF shaded meadow	
<i>Penstemon superbus</i>	superb penstemon	F?	SDG	
<i>Polemonium foliosissimum</i> var. <i>flavum</i>	yellow Jacob's-ladder	F1	WMC,SF	
<i>Pteryxia davidsonii</i>	Davidson's cliff carrot	F?	MPOW	
<i>Puccinellia parishii</i>	Parish's alkali grass	F1	wet meadow	alkali soils
<i>Rumex orthoneurus</i>	Blumer's dock	F3	water, riparian	
<i>Salix arizonica</i>	Arizona willow	F1	riparian	within MWRF
<i>Salix bebbiana</i>	Bebb's willow	F3	wet meadow	
<i>Spiranthes romanzoffiana</i>	hooded lady's tresses	F1	WMC, SF collection	cool micro-climate
<i>Tayloria splachnoides</i>	splachnoid dung moss	F?	MSG	rocky areas
<i>Trifolium neurophyllum</i> (<i>T. longipes</i> var. <i>neurophyllum</i>)	Mogollon clover	F3	PP shaded or wet meadow	
<i>Triteleia lemmoniae</i>	Oak Creek triteleia	F?	PP, MPOW shaded meadow	
<i>Utricularia macrorhiza</i>	common bladderwort	F1	water	only ASNFs carnivorous plant
Fishes – 14 (Note: subsequent analysis of fish species will be separate from all other species)				
<i>Agosia chrysogaster</i>	longfin dace	F3	water	habitat degradation, non-natives, etc.
<i>Catostomus clarki</i>	desert sucker	F3	“	“
<i>Catostomus discobolus</i> <i>discobolus</i>	bluehead sucker	F3	“	“
<i>Catostomus insignis</i>	Sonora sucker	F3	“	“
<i>Catostomus</i> sp.3	Little Colorado sucker	F3	“	“
<i>Gila intermedia</i>	Gila chub	F1	“	“
<i>Gila robusta</i>	roundtail chub	F1	“	“
<i>Lepidomeda vittata</i>	Little Colorado spinedace	F1	“	“
<i>Meda fulgida</i>	spikedace	F1	“	“
<i>Oncorhynchus apache</i>	Apache trout	F2	“	“
<i>Oncorhynchus gilae</i>	Gila trout	F1	“	“
<i>Rhinichthys osculus</i>	speckled dace	F4	“	“
<i>Tiaroga cobitis</i>	loach minnow	F2	“	“
<i>Xyrauchen texanus</i>	razorback sucker	F?	“	“

REFERENCES

Forest Service. 2010. Species and ecosystem diversity evaluation technical guide. <http://fsweb.r3.fs.fed.us/eap/nfma/tech-guides/index.shtml>. Last accessed November 2012.

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Vander Lee, B.; R. Smith; and J. Bate. 2008. Ecological & biological diversity of the Apache-Sitgreaves National Forests. Chapter 7, pp. 7-1 – 7-45. *In*: Vander Lee, B.; and R. Smith (eds.), Ecological and biological diversity of National Forests in Region 3. The Nature Conservancy, Tucson, AZ. 148 p.

--See also References in 2008 Fisheries and 2009 Wildlife Specialist Reports.

SPECIES SOURCES REVIEWED

The diversity of species evaluation done in support of the 2009 Wildlife Specialist Report in compliance with NFMA, and this subsequent iterative report, considered hundreds of species and sources of information about them. Sources reviewed for species information number into the hundreds and include textbooks, research articles, websites, and state and other databases. These are retained on CD as part of the Plan Set of Documents for forest plan revision.